

below the freezing point at night, and the day was a pleasant one for studying the root-leaves of plants—to me an interesting department of phytology. It was a pleasure to discover a new Pennsylvania locality for *Pinus pungens*, but a much greater was furnished by a complete carpet of glaucous green leaves of a *Corydalis*, spread over the moss-covered mass of rotting pine needles under the trees. As the allies of the plant, as known to our botanical grandfathers, died completely down in winter, why should it be wondered at, and made censurable, that such a plant should be dubbed evergreen?

Taking a few plants home and subsequently flowering them, it proved to be *Corydalis flavula* of DC. (*Fumaria flavula* Rafinesque). I have never met *C. glauca* in winter excursions, but its near relationship to this species would justify some faith in Cornutus having seen something similar suggestive of the name.

C. flavula is certainly an annual in the sense of germinating and dying within a twelve month, but in the sense some use the term biennial, that is, getting considerable strength in the autumn after germinating early in the season, and then remaining over to the next to finish its growth and mature, it would not be an annual in Curtis's estimation, nor probably would *C. glauca* be in its native wilds.—THOMAS MEEHAN, Germantown, Pennsylvania.

Pollen mother-cells.—If any person has experienced difficulty in obtaining pollen mother-cells in excellent condition for study, their attention is called to the young anthers of *Negundo aceroides* Moench. Sections of thecae may be easily obtained by cutting across the staminate flowers before they have attained half their full size. When these sections are not too thin the thecae will be found made up of a single whorl or circle of mother-cells, many of which are pear-shaped, due to unequal pressure. The mother-cells in the center of the thecae easily become detached and may be found scattered through the liquid in which the sections are immersed. These loose cells have a strong resemblance to the asci of the Erysiphæe (powdery mildews), and the four pollen grains may be found in all stages of development. In the beginning there is only the slightest differentiation of the protoplasm into four indistinct masses. As they become more manifest the arrangement of the four is found inconstant. Sometimes they are placed with their longer diameter parallel like the four nutlets in a borragé fruit. In others two are in the same plane and the other two above or below, and at right angles to the first pair. Azorubin is excellent in weak solution for bringing out the young grains more prominently. The pollen grains do not use up the thick mother wall, and leave pits or cavities as they escape, as young seeds in a wax-bean pod.—BYRON D. HALSTED, Rutgers College.